COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Piedmont Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Shoosmith Brothers, Inc.
11800 Lewis Road, Chester, Virginia
Permit No. PRO50752

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Shoosmith Brothers, Inc. has applied for a Title V Operating Permit for its 11800 Lewis Road, Chester facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____ Date: _____

Air Permit Manager: _____ Date: _____

Deputy Regional Director: _____ Date: _____

FACILITY INFORMATION

Permittee/Facility
Shoosmith Brothers, Inc.
11800 Lewis Road
Chester, Virginia 23831

AFS ID No. 51-041-0090

SOURCE DESCRIPTION

SIC Code: 4953 - This facility consists of a Municipal Solid Waste (MSW) landfill that collects the landfill gas and burns it primarily in flares and may use it as an alternative fuel for their asphalt plant. The asphalt plant is located adjacent to the landfill.

The facility is subject to the provisions of 40 CFR 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills, and as indicated by 40 CFR 60.752(b) of Subpart WWW, is subject to Title V permitting requirements. This source is located in an attainment area for all pollutants, and is not a Prevention of Significant Deterioration (PSD) major source. The asphalt plant is currently permitted under a minor New Source Review (NSR) permit issued on April 18, 1975.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Stack ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
B01	hot mix asphalt plant construction started 1975	300 tons asphalt/hr, burner rated at 150 mmBtu/hr	Aeropulse 684-10 baghouse;	D04	V05	PM	April 18, 1975
Landfill Operations							
L01	Municipal Solid Waste Landfill operating since 1976	27,143,177 cubic yards see (2) below	10" Landfill Gas Flare rated at 1620 SCFM	P01	V01	NMOC	
			10" Landfill Gas Flare rated at 1620 SCFM	P02	V02	NMOC	
			14" Landfill Gas Flare rated at 3210 SCFM	P03	V03	NMOC	
			hot mix asphalt plant	B01	V05	NMOC	
Storage Tanks							
T01	Diesel above-ground storage tank 1990	20,000 gallons					
T02	Diesel above-ground storage tank 1990	20,000 gallons					
T03	Gasoline above-ground storage tank 1990	20,000 gallons					
T04	Liquid asphalt above-ground storage tank, date unknown	30,000 gallons					

Emission Unit ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Stack ID	Pollutant Controlled	Applicable Permit Date
T05	Liquid asphalt above-ground storage tank, date unknown	20,000 gallons					
T06	Leachate underground storage tank 1995	15,000 gallons					
T07	Leachate underground storage tank 1997	10,000 gallons					
T08	Leachate underground storage tank 1997	15,000 gallons					

(1) The landfill is controlled by a gas collection and control system which has the ability to duct the collected landfill gas to any one of three flares or to the hot mix asphalt plant. The hot mix asphalt plant is also listed under Fuel Burning Equipment since it is process equipment. The flares, however, are only listed as control equipment since their purpose is solely to control the landfill gas emissions. Also, about 25% of the landfill emissions are fugitive since well designed landfill gas collection and control systems are currently estimated by AP-42 to capture 75% of the landfill gas generated.

(2) This landfill capacity was reported in the Amended Design Capacity Report submitted by Shoosmith Brothers and dated June 10, 1999.

EMISSIONS INVENTORY

A copy of the 2002, Pollutant Emissions Report is attached. Emissions are summarized in the following tables.

2002 Criteria Pollutant Emissions							
Emission Unit	**VOC**	**TNMOC**	**CO**	**SO_2**	**PM_{10}**	**NO_x**	**PM**
B01, Asphalt Plant (1)	0.79	-----	13.02	0.24	0.96	0.91	0.26
P01, landfill gas flare (2)	-----	1.08	42.13	4.89	1.93	7.76	1.93
P02, landfill gas flare	-----	1.08	42.16	4.89	1.93	7.78	1.93
P03, landfill gas flare	-----	1.08	42.32	4.89	1.93	7.78	3.87
L01 M.S.W. landfill	8.4	20.75	-----	1.5 as total reduced sulfur	-----	-----	-----
Total	9.19	23.99	139.63	16.41	6.75	24.23	7.99

EMISSION UNIT APPLICABLE REQUIREMENTS

Limitations

Hot Mix Asphalt Plant – B01

The following limits come from 40 CFR 60, Subpart I:

60.92(a)(1) No owner or operator shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

(1) contain particulate matter in excess of 0.04 gr/dscf.
(2) Exhibit 20 percent opacity, or greater.

The following limits are Best Available Control Technology (BACT) requirements in accordance with 9 VAC 5-50-260 of Virginia air pollution control regulations:

(1) Particulate emissions from the asphalt plant shall be controlled by a fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when the dryer is operating.
(2) The approved fuels for the rotary dryer are distillate oil, natural gas, and landfill gas. Distillate oil is defined as fuel oil that meets the specifications for fuel oil numbers 1 or 2 under the American Society for Testing and Materials, ASTM D396-78 "Standard Specifications for Fuel Oils". A change in fuels may require a permit to modify and operate.
(3) The maximum sulfur content of the distillate oil to be burned in the asphalt plant shall not exceed 0.5 percent by weight per shipment.

Limit (1) above is also required by Condition 1 of the minor NSR.

Landfill – L01 (including control equipment P01, P02, P03, and B01)

The asphalt plant (B01) is considered a control device subject to the requirements of 40 CFR 60, Subpart WWW when LFG is combusted in it. The following limits come from 40 CFR 60, Subpart WWW:

60.752(b)(2)(ii) Install a collection and control system that captures the gas generated within the landfill as required by paragraphs (b)(2)(ii)(A) or (B), and (b)(2)(iii) of this section.

60.752(b)(2)(ii)(A) An active collection system shall:

(1) Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system;
(2) Collect gas from each area, cell or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade;
(3) Collect gas at a sufficient extraction rate; and
(4) Be designed to minimize off-site migration of subsurface gas.

60.752(b)(2)(iii) Route all the collected gas to a control system that complies with the requirements in either paragraph (b)(2)(iii)(A), (B) or (C) of this section.

(A) An open flare designed and operated in accordance with ∋60.18;

(B) A control system designed and operated to reduce NMOC by 98 weight percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. The reduction efficiency or parts per million by volume shall be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in ∋60.754(d). *(Described in Testing)*

(*1*) If a boiler or process heater is used as the control device, the landfill gas stream shall be introduced into the flame zone.

(2) The control device shall be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in ∋60.756; *(These are listed in Monitoring.)*

(C) Route the collected gas to a treatment system that processes the collected gas for subsequent sale or use. All emissions from any atmospheric vent from the gas treatment system shall be subject to the requirements of 40 CFR 60.752(b)(2)(iii)(A) or 40 CFR 60.752(b)(2)(iii)(B).

60.753(a) The permittee shall operate the collection system such that gas is collected from each area, cell or group of cells in the MSW landfill in which solid waste has been in place for 5 years or more if active or 2 years or more if closed or at final grade.

60.753(b) The affected facility shall operate the system at negative pressure at each wellhead except in case of fire or increase well temperature or in the case of a decommissioned well.

60.753(c) The affected facility shall operate each interior wellhead in the collection system with a gas temperature less than 55°C and with either a nitrogen level less than 20% or an oxygen level less than 5%.

60.753(d) The affected facility shall operate so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. Shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. Areas with steep slopes or other dangerous areas such as the working face may be excluded after receiving approval from the Director, Piedmont Region.

60.753(e) The affected facility shall operate such that all collected gases are vented to a control system. In the event the system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour.

60.753(f) The permittee shall operate the control system at all times when collected gas is routed to the system.

60.754(c) When calculating emissions from the landfill for PSD purposes, the NMOC emission rate shall be estimated for comparison to the PSD major source and significance levels using AP-42 procedures.

60.755(a)(4) No expansion of system required during the first 180 days after gas collection system startup.

60.755(b) The permittee shall place each well or design component as specified in the design plan and shall install wells no later than 60 days after the date on which the initial solid waste has been in place in any cell or group of cells for a period of 5 years or more if active or 2 years or more if closed or at final grade.

60.755(e) The provisions for oxygen, nitrogen, temperature, and methane concentrations apply at all times except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices.

Landfill Gas Flares – P01, P02, and P03

The following limitations are taken from 40 CFR 60, Subpart A (General Provisions), Section 18:

60.18(c)(1) Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

60.18(c)(3)(ii) The net heating value of the landfill gas must be 200 BTU/scf or greater.

60.18(c)(4)(i) The affected facilities shall be designed for and operated with an exit velocity less than 60 ft/second.

Monitoring

Hot Mix Asphalt Plant – B01

Since NSPS Subpart I was promulgated well before 1990, this facility must perform periodic monitoring on the asphalt plant to determine compliance with both the NSPS opacity (20%) and particulate standard (0.04 gr/dscf). The principle underlying this periodic monitoring requirement is that a properly operating fabric filter will result in compliance with applicable particulate matter and visible emission limitations. Compliance with the emission limitations is demonstrated by demonstrating that the fabric filter is operating properly. The presence of visible emissions is the parameter that triggers corrective action. The permit includes monitoring of pressure drop, but does not specify a pressure drop range for corrective action. The permittee will be required to monitor and record pressure drop to detect changes in fabric filter performance.

The permittee will inspect the fabric filters on a weekly basis when the asphalt plant is in use. The inspection will include a determination of the presence of visible emissions (when the facility is operating but not in startup/shutdown/malfunction mode) and an observation of the pressure drop across the fabric filter. Corrective action will be taken if visible emissions are above 10%. A log recording the results of the inspection including pressure drop, the presence of visible emissions, and any maintenance or corrective action taken, shall be kept. Any exceedances of the visible emission standard, and all log information, will be subject to general reporting requirements of Title V, including semi-annual reporting.

Landfill – L01 (including control equipment P01, P02, P03, and B01)

The following monitoring requirements are taken from 40 CFR 60, Subpart WWW:

60.755(a)(3) The permittee shall measure gauge pressure in the header at each individual well monthly. If a positive pressure exists, corrective action shall be taken within 5 calendar days of the exceedance. If a negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the system shall be expanded within 120 days of the initial measurement of positive pressure.

60.755(a)(5) The permittee shall monitor each well monthly for temperature and nitrogen or oxygen. If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance.

60.755(c)(1) The permittee shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals for each collection area on a quarterly basis using methods described in Testing. Areas with steep slopes or other dangerous areas such as the working face may be excluded from this monitoring after receiving approval from the Director, Piedmont Region.

60.755(c)(4) Any reading of 500 ppm or more above background at any location shall be recorded as a monitored exceedance and the actions specified below shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements.

(i) Location shall be marked and recorded.

(ii) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of the exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance.

(iii) If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the location, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance.

(iv) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10 day re-monitoring shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 ppmv above background, no further monitoring of that location is required until the next quarterly monitoring. If the 1-month re-monitoring shows an exceedance, either (iii) or (v) will be performed.

(v) For any location where monitored methane concentration equals or exceeds 500 ppm above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, heater pipes, or control device, and a corresponding timeline for installation may be submitted to the Director, Piedmont Region for approval.

60.755(c)(5) The permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

60.756(a) The permittee shall install a sampling port and a temperature measuring device or a port for temperature measurements at each wellhead. Shall measure the gauge pressure in the gas collection header on a monthly basis. Shall monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis. Shall monitor temperature of the landfill gas on a monthly basis.

60.756(b) For each enclosed combustor, the permittee shall calibrate, maintain, and operate according to manufacturer=s specifications the following:

(1) Temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5°C, whichever is greater.
(2) A device that records flow to or bypass of the asphalt plant. Install, calibrate and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or, secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

60.756(c) For open flares (P01, P02, and P03), the permittee shall install, calibrate, maintain and operate according to manufacturer=s specifications the following equipment:

(1) Heat sensing device at the flame to indicate the continuous presence of flame.
(2) A device to record flow to or bypass of the flare. Install, calibrate, and maintain a gas flow rate measuring device that shall record flow to the flare at least every 15 minutes; or, secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

Recordkeeping

Hot Mix Asphalt Plant – B01

The permittee shall obtain a certification from the fuel supplier with each shipment of distillate oil.

The permittee will be required to record the pressure drop across the fabric filter during the particulate performance test.

Landfill – L01 (including control equipment P01, P02, P03, and B01)

The following record keeping requirements come from 40 CFR 60, Subpart WWW:

60.753(b)(1) The permittee shall record instances when positive pressure occurs in any wellhead in efforts to avoid a fire.

60.753(d) A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals.

60.758(a) The permittee shall keep 5 years of up-to-date, readily accessible, on site records of the design capacity report dated July 29, 1997, the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

60.758(b) The permittee shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed below as measured during initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removed.

(1)(i) Maximum expected gas generation flow rate.
(1)(ii) Density of wells, horizontal collectors, and surface collectors.
(2)(i) The average combustion temperature of the asphalt plant when burning landfill gas, measured at least every 15 minutes and averaged over the same time period of the performance test.
(2)(ii) The percent reduction of NMOC achieved by the asphalt plant during initial or most recent compliance test.
(3) A description of the location at which the collected gas vent stream is introduced into the asphalt plant.
(4) For P01, P02, & P03, the flare type (i.e., steam-assisted, air assisted, or non-assisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in §60.18; continuous records of the flare flame monitoring and records of all periods of operations during which the flare flame is absent.

It is important to note that requirements regarding non-degradable waste to be left out of the landfill gas generation equation are not applicable since no location is excluded from collection according to the design plan. Therefore, the requirements for documenting non-degradable waste are not applicable.

60.758(c) The permittee shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified for monitoring in §60.756 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

(1) The following constitute exceedances to be recorded and reported:
  (i) For the asphalt plant, all three hours periods of operation during which the average combustion temperature was more than 28°C below the average combustion temperature during the most recent performance test determining compliance.
  (ii) Whenever there is a change in the location at which the vent stream is introduced into the flame zone.
(2) The permittee shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines.

(3) The permittee shall keep up-to-date, readily accessible records of all periods of operation of the asphalt plant.

(4) The permittee shall keep up-to-date, readily accessible continuous records of the flame monitoring for each flare and up-to-date, readily accessible records of all periods of operation in which the flame in each flare is absent.

60.758(d) The permittee shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector.

(1) Shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors.

60.758(e) The permittee shall keep 5 years of up-to-date, readily accessible records of all collection and control system exceedances of the operational standards, the reading in the subsequent month, whether or not the second reading is an exceedance, and the location of each exceedance.

The following condition is taken from 40 CFR 60, Subpart A, Section 7:

60.7(b) The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

Storage Tanks – T01, T02, T03, T04, T05, T06 and T08

According to §60.110b(a) of 40 CFR 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels constructed after July 23, 1984, the affected facility to which the subpart applies is each storage vessel with a capacity greater than 40 cubic meters. Therefore, storage tanks T01, T02, T03, T04, T05, T06 and T08 are subject to 40 CFR 60, Subpart Kb.

According to §60.110b(b) of 40 CFR 60, Subpart Kb, storage vessels with a design capacity less than 75 cubic meters are subject only to the recordkeeping requirements of 40 CFR 60.116b(a) and (b), and are exempt from 40 CFR 60, Subpart A, General Provisions and the provisions of Subpart Kb. According to the applicant, storage tanks T01, T02 and T03 have a nominal capacity of 20,000 gallons. However, the design capacity of each of those tanks, calculated using actual tank dimensions, is 70.3 cubic meters or 18,569.3 gallons. Therefore, storage tanks T01, T02, T03, T06 and T08 are subject only to the recordkeeping requirements of 40 CFR 60.116b(a) and (b) of Subpart Kb.

According to 40 CFR 60.110b(c), vessels with a capacity greater than or equal to 75 cubic meters but less than 151 cubic meters storing a liquid with a maximum true vapor pressure less than 15 kilopascals are subject only to the recordkeeping requirements of 40 CFR 60.116b(a) and (b), and are exempt from 40 CFR 60, Subpart A, General Provisions and the provisions of Subpart Kb. Storage tanks T04 and T05 each store liquids with a maximum true vapor pressure less than 15 kilopascals. Therefore, tanks T04 and T05 are subject only to the recordkeeping requirements of 40 CFR 60.116b(a) and (b).

The following recordkeeping requirements come from 40 CFR 60.116b(a) and (b) and apply to tanks T01, T02, T03, T04, T05, T06 and T08:

60.116b(a) & (b) The permittee shall keep records showing the dimension of each storage vessel listed above and an analysis showing the capacity of each storage vessel. These records shall be kept by the permittee for the life of the storage vessel.

Testing

Hot Mix Asphalt Plant – B01

The following testing requirements come from 40 CFR 60, Subpart I:

60.93(b)(1) The permittee shall determine compliance with the particulate matter standards using Method 5 to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 31.8 dscf.

60.93(b)(2) The permittee shall determine compliance with the opacity standards using Method 9 and procedures in 60.11.

File records show that the facility submitted a test showing passing emission rates dated September 28, 1973, for an identical unit. At the time this facility was constructed (1975), EPA allowed tests for identical units to be submitted in place of testing at the permitted facility. As stated in the Periodic Monitoring section, the facility will be required by this permit to test using Methods 5 and 9. Submission of a test from a source considered essentially similar or identical was considered by policy to indicate compliance with the NSPS emission standards. However, this policy has changed, and current information indicates that similar facilities may have very different emissions. Therefore, to show compliance and to facilitate the periodic monitoring for the particulate standard, the facility will need to perform testing required under 40 CFR 60.93 (b).

The following testing requirements come from 40 CFR 60, Subpart WWW:

60.754(d) For tests required by 60.752(b)(2)(iii)(B), Method 25C or Method 18 shall be used. If using Method 18, the minimum number of compounds to be tested for are those in the most recent AP-42. The following equation shall be used to calculate efficiency:

Control Efficiency = (NMOCin-NMOCout)/(NMOCin) Where:
NMOCin=mass of NMOC entering control device
NMOCout=mass of NMOC exiting control device

Landfill – L01

The following testing requirements come from 40 CFR 60, Subpart WWW:

60.753(c)(1) The nitrogen level at each well head shall be determined by using Method 3C;

60.753(c)(2) The oxygen level at each well head shall be determined by an oxygen meter using Method 3A except that:

(i) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span;
(ii) A data recorder is not required;
(iii) Only a zero and a span calibration gas are required; ambient air may be used as span;
(iv) A calibration error check is not required;

(v) The allowable sample bias, zero drift, and calibration drift are ∀10%.

60.755(c)(2) The background concentration of methane during surface emissions monitoring shall be determined for the instrument measuring the surface concentrations of methane by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

60.755(c)(3) Surface emission monitoring shall be performed in accordance with Section 4.3.1 of Method 21 of Appendix A, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.

60.755(d) The portable analyzer used to determine the surface methane concentration shall meet the instrument specifications provided in Section 3 of Method 21 of Appendix A, except that Amethane≅ shall replace all references to VOC. The calibration gas shall be methane, diluted to a nominal concentration of 500 ppm in air. To meet the performance evaluation requirements in Section 3.1.3 of Method 21, the instrument evaluation procedures of Section 4.4 of Method 21 shall be used. The calibration procedures in Section 4.2 of Method 21 shall be followed immediately before commencing a surface monitoring survey.

<u>The following testing requirements are from 40 CFR 60, Subpart A, Section 8:</u>

60.8(a) Within 60 days after achieving the maximum production rate but not later than 180 days after initial startup, the permittee shall conduct performance tests and furnish DEQ with 2 copies of the written report of the results of such performance tests.

60.8(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart.

60.8(c) Testing shall be conducted under representative conditions.

60.8(d) The permittee shall provide DEQ at least 30 days prior notice of any performance test.

60.8(e)(1) The permittee shall provide sampling ports adequate for test methods applicable to each facility.

60.8(e)(2) The permittee shall provide safe sampling platforms.

60.8(e)(3) The permittee shall provide safe access to sampling platforms.

60.8(e)(4) The permittee shall provide utilities for sampling and testing equipment.

60.8(f) Unless otherwise specified, each test shall consist of 3 separate runs. The arithmetic means of the results of the three runs shall apply for determining compliance with a standard.

With the exception of the time frame of 60 to 180 days, all these conditions from 60.8 apply to both the asphalt plant and the landfill. Since the policy toward accepting stack testing from other like facilities has changed, they will stack test but will do so considerably outside the 60 to 180 day time frame.

In summary, this permit will contain conditions that are one-time-only tests. These tests consist of:

1. *Testing the asphalt plant for particulate matter grain loading and opacity for compliance with NSPS Subpart I; and*
2. *Testing the asphalt plant for destruction efficiency or ppm of VOC in outlet exhaust for compliance with NSPS Subpart WWW;*

These tests will be specifically described in the testing sections of the Title V permit. For tests during which the owner must also record other information, such as pressure drop across the baghouse, these requirements will also be listed in the testing sections of the Title V permit.

Reporting

Hot Mix Asphalt Plant – B01

The permittee shall submit semi-annual reports for fuel quality and for monitoring of the fabric filter.

The following condition is taken from 40 CFR 60, Subpart A, Section 7:

60.7(a)(6) Notification of the anticipated date for conducting performance tests. The notification shall be postmarked not less than 30 days prior to such date.

Landfill – L01 (including control equipment P01, P02, P03, and B01)

The following reporting requirements are from 40 CFR 60, Subpart WWW:

60.753(b)(1) Records shall be submitted in annual reports of instances when positive pressure at a wellhead occurs due to efforts to avoid a fire.

60.757(f) Within 180 days of installation and start-up of the collection and control system, the permittee shall submit annual reports of the following information, and shall include the initial performance test report:

(1) Value and length of times for exceedance of pressure, temperature, nitrogen or oxygen measurements at wellheads; for temperature at the asphalt plant when burning landfill gas; for flow to flares and asphalt plant; for heat sensing at the flame of the open flares.
(2) Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow.
(3) Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.
(4) All periods when the collection system was not operating in excess of 5 days.
(5) Location of each exceedance of the 500 ppm methane concentration and the concentration recorded at each location for which an exceedance was recorded in the previous month.
(6) Date of installation and the location of each well or collection system expansion added due to exceedances of oxygen, nitrogen, pressure; due to the age of the initial solid waste placed in each cell or group of cells; or due to surface methane concentration exceedances.

Since the facility has installed and has been operating a collection and control system for several years, the condition in the permit containing the reporting requirements of 60.757(f) will not reflect the 180 day timeframe. The condition will also be modified to require the permittee to submit the report on a semi-annual basis to coincide with the reporting requirements of General Condition C.3.

Streamlined Requirements

Obsolete Conditions:

Condition 2 of the permit dated April 18, 1975 requires the notification of the anticipated startup of the asphalt plant no more than 60 days or less than 30 days prior to such date, the actual date of initial startup of the affected facility within 15 days after such date, and the anticipated date of the performance test of the affected facility at least 30 days prior to such date. In a letter dated September 25, 1975, this facility notified the DEQ that the startup date was June 10, 1975. Also, no tests were conducted since the facility submitted a test showing compliance from an identical asphalt plant. Therefore, the condition is obsolete. New testing requirements for determining compliance with the particulate emission standard will be contained in this permit and will take the place of this condition. The new testing requirements will be similar to the language in 40 CFR 60.8 in that the particulate matter testing must be complete within 180 days after the Title V permit becomes active.

60.752(a) The owner or operator shall submit an initial design capacity report to the Administrator.

The facility submitted this report on July 29, 1997. This report contained all information required by Subpart WWW. Therefore, this requirement in Subpart WWW is obsolete.

60.752(b) The owner or operator shall comply with paragraph (b)(2) of this section or calculate an NMOC emission rate for the landfill using specified procedures.

60.752(b)(2)(i) If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year the owner or operator shall submit a collection and control system design plan prepared by a professional engineer to the Administrator within 1 year.

The facility submitted a report showing emissions of NMOC greater than 50 megagrams on July 29, 1997. The design plan was submitted on August 3, 1998 and was signed by a professional engineer. The design plan has been reviewed, and with minor changes was approved on June 30, 1999. Since these requirements have been fulfilled, they are obsolete and will not be carried over into the Title V permit.

40 CFR 60.754(a) Calculation of NMOC.

This information was not included in the permit since the facility has installed an approved gas control system. The purpose of this section is to determine whether or not an approved gas control system is needed. Since the facility knows a control system is needed, this is an obsolete condition.

60.755(a)(1) For purposes of determining maximum gas flow from the landfill for designing control systems, use equations provided and AP-42 emission factors for constants.

60.755(a)(2) The permittee shall design a system of wells to meet operational and performance standards.

These requirements are not included in the permit because the maximum gas flow from the landfill was determined for design purposes using AP-42. Also, the purpose of the design plan is to meet the

operational and performance standards, which are written as requirements into the Title V permit. Therefore, these conditions are obsolete and will not be included.

60.757(a) The owner or operator shall submit an initial design capacity report to DEQ.

This capacity report was sent to DEQ and EPA on September 9, 1996. This report contained all the required information concerning the landfill. This one time only requirement has been fulfilled.

60.757(b) The owner or operator shall submit an NMOC emission rate report initially and annually thereafter.

This emission rate report was initially submitted on July 29, 1997. This report showed that the facility had exceeded the NMOC emission rate of 50 Mg/year in 1981. Since the facility was then required to submit a design plan and start the installation of the collection system, this requirement no longer applies (60.757(b)(3)).

60.757 (c) The owner or operator shall submit a collection and control system design plan within 1 year of the first report showing emissions in excess of 50 Mg/year.

This design plan was submitted on August 3, 1998, and after additional submittals, was declared approved on June 30, 1999. Since this is a one-time-only requirement, this condition has been fulfilled.

60.759(a)(1) Requirement for PE certification of design plan and plan contents.
60.759(a)(2) Density of collectors, gas migration issues, and expansion of system.
60.759(a)(3) Placement of gas collection devices.
60.759(b)(1) Materials for construction and design specifications.
60.759(b)(2) Protection of liners, minimization of air infiltration, gravel sizing.
60.759(b)(3) Collection device design and materials.
60.759(c) Gas mover sizing.

The design plan discusses this information for the active collection system Shoosmith has installed. Therefore, the requirement that this information be included in the design plan has been completed, and these requirements will not be included in the Title V permit.

60.18(f)(1) Requirement to determine visible emissions from open flares.
60.18(f)(3) Requirement to determine the net heating value of the landfill gas.
60.18(f)(4) Requirement to determine the actual exit velocity of the open flares.

The flares have been tested as required. Since these one-time-only requirements have been fulfilled, they will not be included in the permit.

60.757(g) Information pertaining to landfill gas collection system components and areas excluded from gas collection is to be submitted with the initial performance test report.

The initial performance test report and additional landfill information have been submitted; therefore, this requirement has been fulfilled and will not be included in the permit.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring

reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §§ 2.1-20.01:2 and §§ 10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 3-2001."

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emissions reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to 9 VAC 5-20-180 including Title V facilities. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four day time business hours after discovery of the malfunction.

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on General Condition F.

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

STATE ONLY APPLICABLE REQUIREMENTS

No state only applicable requirements apply to this facility.

FUTURE APPLICABLE REQUIREMENTS

The following future applicable requirements stem from NSPS Subpart WWW and deal with the closing of the landfill. The landfill does not foresee closing in the next several rounds of Title V permitting. However, these conditions will eventually apply to the facility and therefore are included in the Title V permit.

60.752(b)(2)(v) The collection and control system may be capped or removed provided that all the following conditions are met.

(A) The landfill shall be a closed landfill as defined in 60.751 (solid waste is no longer being placed and in which no additional solid wastes will be placed without first

filing a notification of modification as prescribed under 60.7). A closure report shall be submitted to DEQ.

(B) The collection and control system shall have been operating at least 15 years.

(C) The calculated NMOC gas production shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart and no more than 180 days apart.

Conditions for removing the requirement for a Title V permit were not included here since the asphalt plant is a Title V source by virtue of being an NSPS source. Therefore, the landfill would be subject to Title V anyway.

60.754(b) The permittee shall calculate the NMOC emission rate for purposes of determining when the system can be removed using the following equation:

$Mnmoc=1.89 \times 10^{-3} QlfgCnmoc$ where:
Mnmoc = mass emission rate of NMOC, Mg/year
Qlfg = flow rate of landfill gas, cubic meters/minute
Qnmoc = NMOC concentration, ppmv as hexane

(1) Qlfg shall be determined by measuring the total landfill gas flow rate at the common header pipe to the control device using a gas flow measuring device calibrated according to the provisions of section 4 of Method 2E, Appendix A.

(2) Cnmoc shall be determined by collecting and analyzing landfill gas sampled from the common header pipe using Method 25C or Method 18. The minimum list of compounds shall be those published in the most recent version of AP-42 for Method 18. The sample location on the common header pipe shall be before any condensate removal or refining units. Shall divide the NMOC concentration from Method 25C by six to convert from Cnmoc as carbon to Cnmoc as hexane.

60.757(d) The permittee shall submit a closure report to DEQ within 30 days of waste acceptance cessation. DEQ may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 9 VAC 20-80-250 E. and F. (40 CFR 258.60). If a closure report has been submitted to the DEQ, no additional wastes may be placed into the landfill without filing a notification of modification.

60.757(e) The permittee shall submit an equipment removal report to the DEQ 30 days prior to removal or cessation of operation of the control equipment. The report shall contain a copy of the closure report; a copy of the initial performance test report demonstrating that the 15 year minimum control period has expired; and dated copies of three success NMOC emission rate reports demonstrating the landfill is no longer producing 50 Mg or greater of NMOC per year. DEQ may request additional information to verify that all conditions for removal have been met.

40 CFR Part 63, Subpart AAAA - National Emissions Standards for Hazardous Air Pollutants (NESHAPS): Municipal Solid Waste Landfills was promulgated on January 16, 2003. The NESHAPS requires affected sources to apply Maximum Achievable Control Technology (MACT) to control emissions of hazardous air pollutants. A review of Subpart AAAA indicates that the Shoosmith Brothers, Inc. landfill meets the criteria of 40 CFR 63.1935(a)(3), making the facility subject to the requirements of the subpart. According to 40 CFR 63.1945(b), the permittee must comply with the requirements of Subpart AAAA by January 16, 2004.

INAPPLICABLE REQUIREMENTS

There were no inapplicable requirements identified in the application.

COMPLIANCE PLAN

No compliance plan is needed for this facility.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, record keeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation[1] (9 VAC_)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
4a	leachate tank	5-80-720 B	VOC	2,000 gal
4b	leachate tank	5-80-720 B	VOC	2,000 gal
4c	leachate tank	5-80-720 B	VOC	2,000 gal
4d	leachate tank	5-80-720 B	VOC	2,000 gal
4e	leachate tank	5-80-720 B	VOC	2,000 gal
5a	leachate tank	5-80-720 B	VOC	4,000 gal
5b	leachate tank	5-80-720 B	VOC	4,000 gal
5c	leachate tank	5-80-720 B	VOC	4,000 gal
5d	leachate tank	5-80-720 B	VOC	4,000 gal
5e	leachate tank	5-80-720 B	VOC	4,000 gal
5f	leachate tank	5-80-720 B	VOC	4,000 gal
5g	leachate tank	5-80-720 B	VOC	4,000 gal
5h	leachate tank	5-80-720 B	VOC	4,000 gal
6a	leachate tank	5-80-720 B	VOC	5,000 gal
6b	leachate tank	5-80-720 B	VOC	5,000 gal
6c	leachate tank	5-80-720 B	VOC	5,000 gal
9	underground oil/water separator	5-80-720 C	VOC	700 gal
10	underground waste oil tank	5-80-720 C	VOC	2,000 gal

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

A public notice regarding the draft permit was placed in the *Richmond Times Dispatch* newspaper in Richmond, Virginia on September 24, 2003. The United States Environmental Protection Agency (EPA) was sent a copy of the draft permit and notified of the public notice on September 23, 2003. There are no affected states within a 50-mile radius of the facility. All persons on the Title V mailing list were sent a copy of the public notice by e-mail, fax or letter on September 24, 2003.

Public comments were accepted from September 24, 2003, through October 23, 2003. No comments were received from the public or the EPA during the public comment period.